

P'YAVCHENKO, N.I.

Characteristics of the lower maximum of spruce pollen in peat fields.
Dokl.AN SSSR 95 no.5:1093-1096 Ap '54. (MLRA 7:4)

1. Institut lesa Akademii nauk SSSR. Predstavleno akademikom V.N.Sukachevym. (Paleobotany) (Pollen, Fossil)

P'YAVCHENKO, N. I.

Chem 116 v48

1-35-274

Succo & carbonization
Products

Examination of degree of decay of air-dried peat under a microscope. N. I. P'yavchenko. *Torfyanaya Prom.* 29, No. 11, 25-6(1952). A ground sample of peat is treated with 2-5% NaOH soln, neutralized on the microscope slide with H₂SO₄, and examd. under a microscope.

W. M. Sternberg

P. I. Pyavchenko, N. I.

J-1

USSR/Forestry. General problems.

Abs Jour: Referat Zh-Biol., No 6, 1957, 22537

Author : Pyavchenko, N.I.

Inst : O

Title : Conditions of Forest Swamping in the Taiga Forest Zone.

Orig Pub: Tr. In-ta lesa AN SSSR, 1954, 23, 277-287

Abstract: The error is pointed out ~~of~~ the opinion that swamping of forests, especially fir forests, is a result of the natural self-development of fir forests, which is considered without relation to the external conditions of the medium. The investigations conducted by the author in the Leningrad, Vologda and Velikoluki oblasts and Komi ASSR indicate that the process of forest swamping, of cuttings and scorching, are fairly common but are not catastrophic and not irreversible. The growth stage which is experienced at present in the zone close to the Taiga with their prevalent swampings has been passed by the mixed forest underzone of south-

Card : 1/2

-1-

USSR/Forestry. General problems.

J-1

Abs Jour: Referat Zh-Biol., No 6, 1957, 22537

ern and central Taiga forests, the swamping of which is somewhat decreased. The processes of contemporary forest swamping in the overwhelming majority of cases have but a temporary character; they arise and die out under the influence of interaction of external environmental factors and vegetation. In the current period there are no favorable conditions for formation of new swamps and their progressive development. In the article there is a brief description of the following types of contemporary swamping of dry ground, mainly in the Taiga zone: 1) a surface inundation of a periodic nature, 2) a periodic temporary turf-accumulation, 3) temporary swamping of fellings and burnt out spots, and 4) progressive swamping of an irreversible character.

Card : 2/2

-2-

PYAVCHENKO, N.I.

USSR/Geology - Paleontology

Card 1/1 Pub. 22 - 42/47

Authors : Pyavchenko, N. I.

Title : Results of pollen analysis of peat moss of northern Sakhalin

Periodical : Dok. AN SSSR 99/1, 161-164, Nov 1, 1954

Abstract : Results obtained from the analysis of northern Sakhalin peat moss (content of pollen and spores), are listed. Four USSR references (1936-1948). Graphs.

Institution : Academy of Sciences USSR, Forestry Institute

Presented by: Academician V. N. Sukachev, June 5, 1954

KOSHCHYEV, A.L.; P'YAVCHENKO, N.I., professor, doktor biologicheskikh nauk, redaktor; VIFPER, P.B., redaktor; ASTAF'YEVA, G.A., tekhnicheskiy redaktor.

[Swamp formation on cleared areas and ways of preventing it]
Zabolachivanie vyrubok i mery bor'by s nim. Moskva, Izd-vo Akademii nauk SSSR, 1955. 164 p.
(MLRA 9:1)
(Swamps) (Forest influences)

P'yavchenko, N. I.

N/5
735.19
.P9

Eugristyye Torfyaniki (Bumpy Peat Fogs) Moskva, Akademkniga, 1955.

278 P. Illus., Diagrs., Tables.

At Head of Title-Page: Akademiya Nauk SSSR. Institut Lesa.

Bibliography: P. 272-278.

P'YAVCHENKO, N.I.

History of forests in the Central Forest Reserve during the post-glacial period. Trudy Kom.chetv.per.12:70-80 '55. (MLRA 9:4)
(Paleobotany)

ZOLOTAREV, M.A.; PIDOPLICHKO, I.G.; FEDOROV, P.V.; VASIL'YEV, V.N.; IVANOVA, I.K.; GROMOV, V.I.; SOKOLOV, D.S.; ZHIRMUNSKIY, A.M.; PARMUZIN, Yu.P.; PLYUSNIN, I.I.; KATS, N.Ya.; GRICHUK, V.P.; YEFREMOV, Yu.K.; MOSKVITIN, A.I.; LEBEDEV, V.D.; TEODOROVICH, G.I.; ZVORYKIN, K.V.; MIKHNOVICH, V.P.; GALITSKIY, V.V.; MAKEYEV, P.S.; NIKIFOROVA, K.V.; GORDEYEV, D.I.; YANSHIN, A.L.; DUMITRASHKO, N.V.; SHANTSER, Ye.V.; PIYAVCHENKO, N.I.; FLEROV, K.K.; PIDOPLICHKO, I.G., doktor biologicheskikh nauk, professor.

Papers presented at the conference on the history of Quaternary flora and fauna in relation re the development of Quaternary glaciation.
Trudy Kem.chetv.per. 12:129-189 '55. (MLRA 9:4)

1.Gidrometeorologicheskaya sluzhba (for Zolotarev).2.Zoologicheskiy institut AN USSR (for Pidoplichko).3.Institut ekologii AN SSSR (for Fedorov).4.Bioticheskiy institut AN SSSR (for Vasil'yev).5.Komissiya po izucheniyu chetvertichnogo perioda AN SSSR (for Ivanova).6.Institut geologicheskikh nauk AN SSSR (for Gromov, Yanshin, Nikiforova, Moskvitin).7.Moskovskiy geologo-razvedochnyy institut imeni Ordzhonikidze (for Sokolov).8.Akademiya nauk Belorusskoy SSR (for Zhirmunskiy).9.Moskovskiy institut inzhenerov vodnogo khozyaystva (for Plyusnin).10.Geograficheskiy fakultet Moskovskogo gosudarstvennogo universiteta (for Yefremov, Parmuzin).11.Moskovskiy gosudarstvennyy universitet (for Lebedev, Zvorykin).12.Institut nefti AN SSSR (for Teodorovich).13.Transproektkar'yer Ministerstva putey soobshcheniya (for Mikhnovich).14.Vsesoyuznyy aerogeologicheskiy trest (for Galitskiy).15.Sovet po izucheniyu proizvoditel'nykh sil AN SSSR (for Makeyev).

(Continued on next card)

ZOLOTAREV, M.A.----- (continued) Card 2.

16. Laboratoriya gidro-geologicheskikh problem AN SSSR (for Gordeyev).
17. Institut geografii AN SSSR (for Dumittrashko, Grichuk).

(Paleontology) (Paleobotany) (Glacial epoch)

15-57-3-3470

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 3,
p 144 (USSR)

AUTHOR: P'yavchenko, N. I.

TITLE: Agrochemical Properties of Peat Bogs of the Middle
Russian Forested Steppes (Agrokhimicheskiye svoystva
torfyanikov Srednerusskoy lesostepi)

PERIODICAL: Tr. In-ta lesa AN SSSR, 1955, Nr 26, pp 153-167

ABSTRACT: Most peat bogs are of the lowland type and may be important for agricultural purposes. They generally occur on flood plains of rivers, on low terraces along stream valleys, and also in gullies and ravines. Gleyed sandy clay soils develop on the floor of the bogs. Above this bottom layer a soil horizon with the remains of roots is commonly present, and this horizon grades into peat. The lower part of the peat bogs is composed of alder or grass-alder peat. In the middle layers reed-black poplar or reed peat predominates and in the upper layers the peat consists chiefly of black poplar or of

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15-57-3-3470

Agrochemical Properties of Peat Bogs (Cont.)

linden and black poplar mixed. The ash content of the peat is generally 15 to 30 percent, and the pH of lowland peat is 6 to 7 percent. The mineral impurities are Mg, S, Mn, P (in phosphoric acids) N, K, Na (in small quantities), Fe, and others. The agrochemical properties of the peats indicate that high-ash non-acidic tuffs of flood plains and swampy ravines, which have a large supply of nutritive substances for plants, are useful as fertilizers.

Card 2/2

L. I. B.

P'yavchenko, N.I.

M-1

Sovn/Cultivable Plants - General Problems!

Abs Jour : Ref Zhur - Biol., No 3, 1953, 106-9

Author : P'yavchenko, N.I.

Inst : Institute of Forests, AN USSR

Title : Types of Forest Swamping and Ways to Utilize Swamped Lands
in Agriculture and Forest Economy.

Orig Pub : Tr. In-tu leza AN SSSR, 1955, 31, 7-19

Abstract : Two types of swamping of forests, lumbered areas, and
burned areas of the taiga zone are described together with
the characteristics of the water regimes - circulating and
stagnant - which give rise to swamping. The circulating
type of swamp develops on low, gentle slopes and in depressions
where there is movement of the ground waters which
also occasionally rise to the surface. Swamping of the
stagnant type is characteristic of low areas where the

Card 1/2

P'YAVCHENKO, N. I. professor

Reclamation of drained swamps. Priroda 44 no.8:98-101 Ag '55.
(MIR 8:10)

1. Institut lesa Akademii nauk SSSR
(Reclamation of land)

P'YAVCHENKO, N.I.

On the conditions of forest growth in the eastern portion
of the Bol'shezemel'skaya Tundra. Rast.Krain.Sev.SSSR i ee
osv. no.1:16-26 '56. (MLRA 10:2)

1. Institut leza AN SSSR.
(Bol'shezemel'skaya Tundra--Forests and forestry)

USSR / Forestry. Biology and Typology of the Forest. K-1

Abs Jour: Ref Zhur-Biol., No 6, 1958, 24854.

Author : P'yavchenko, N. I.

Inst : Not given.

Title : Types of Swamping in Forests of the Northern Dvina Basin.

Orig Pub: Tr. In-ta lesa. AN SSSR, 1957, 36, 5-55.

Abstract: Studies (1953-1954) were conducted by the Institute of Forestry AN SSSR on the territory of the Kotlas-skiy forestry, Arkhangelskoy Oblast. Physico-geographical conditions are described. Fir is predominant in the composition of the forests, with an admixture of the Siberian fir and the birch.

Card 1/4

USSR / Forestry. Biology and Typology of the Forest. K-1
Abs Jour: Ref Zhur-Biol., No 6, 1958, 24854.

Abstract: There is given a three-stage classification of stagnant forests with a series of swamps by flowing, poor flowing and non-flowing. The swamping of the first series is widespread on low gentle slopes and in depressions with mobile subsoil waters, and is of a broken cyclical character. The rate of the flowing water here conditions the growth of firs of the swampgrass group (three types are described). The swamping of the second series (transitional stage from flowing to standing water) is adapted to the depressions in the relief. A series unites 3 groups of forest types: Dolgomoshnyye [sic] firs on peat podsol and on peat-gley soils, peat-bog firs on peat and peat-gley soils and peat bog pine forests on peat-gley and peat soils. Swamping in the third series is

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USSR / Forestry. Biology and Typology of the Forest. K-1

Abs Jour: Ref Zhur-Biol., No 6, 1958, 24854.

Abstract: connected with the accumulation and stagnation of shallow waters in depressions without drainage, and includes 3 groups of the forest: Dolgomoshnyye [sic] pine forests, peat-bog pine forests, sparse pine growths of the upper peat-bogs. Swamping is described, conditioned by climactic factors, swampings caused by a tributary of the surface water, and swampings connected with growth on the side of the upper peat-bogs. The conclusions of some authors (Arkipov and others) on the inevitable changing of the forest by bog-moss swamps are disputed, and it is noted that irreversible swamping is to be observed only in depressions with no

Card 3/4

USSR/Forestry - General Problems.

K-1

Abs Jour : Ref Zhur - Biol., No 5, 1958, 20093

Author : P'yavchenko, N.I.

Inst : The Forestry Institute of the Academy of Sciences, USSR.

Title : The Vegetational Conditions of Tree Life at Its Northern Limit.

Orig Pub : Tr. I-ta lesa. AN SSSR, 1957, 36, 109-164.

Abstract : The research was conducted by the Institute for Forestry of the Academy of Sciences USSR in 1954-1955 at the Eastern section of the Bol'shezemel'skaya tundra on a section of the Pecharskaya Railroad from the Usa station to the city of Vorkuta an in the rayon of the city of Noril'sk of Krasnoyarskiy Kray. The physico-geographical and soil hydrological conditions of the investigated rayons are described in detail, together with the biological

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K-1

USSR/Forestry - General Problems.

Avs Jour : Rof Zhur - Biol., No 5, 1958, 20093

features of the tree growth in them. The following forest association have been studied and described. In the Bol'shezemel'skaya tundra there was the spruce forest at the watershed (with Piceetum hylocomioso-fruticosum), the spruce forest in the upper part of the flat slope (Piceeto-betuletum polytrochonum), the sparse spruce tree wood on the second floodland terrace of the Usa River (Northern variant of Piceetum fruticuloso-sphagnosum); a description is also given of the birch wood islet (containing especially the variety Betula pubescens) on the dense watershed of the Usa and the tundra vegetation in the rayons of the Seyd and Pesets and Vorkuta stations. On the Noril'skaya forest tundra, the forest is on a high terrace of the Norilka River (containing Laricetum herbosum), the thin woods on the high terrace of the Kupets River (Lariscetum fruticoso-hypnosum), the sparse wood on the flat mountain slope (Laricetum fruticosum), the brush tundra growing

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CIA-RDP86-00513R001343720020-9

P'YAVCHENKO, N.I.

"Lower" spruce on peat bogs. Trudy Inst. lessa 36:178-186 '57.
(MIRA 10:12)

(Paleobotany)

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001343720020-9"

P'YAVCHENKO, Nikolay Ivanovich.; SUKACHEV, V.N., akad., otv. red.;
VOLINSKAYA, V.S., red. izd-va.; KUZ'MENKO, I.F., tekhn. red.

[Peat bogs of the Russian forested steppe regions] Torfianiki
russkoi lesostepi. Moskva, Izd-vo Akad. nauk SSSR, 1958. 189 p.
(MIRA 11:11)

(Peat bogs)

P'YAVCHENKO, N.I.

"Forest history and paleogeography of the U.S.S.R. in the Holocene"
by M.I. Neishtadt. Reviewed by N.I. P'yavchenko. Bot.shur. 43
no.11:1639-1643 N '58. (MIRA 11:11)

1. Istitut lesa AN SSSR, s. Uspenskoye Moskovskoy oblasti.
(Forests and forestry) (Paleogeography)

P'YAVCHENKO, N.I., prof., doktor biolog.nauk, otv.red.; SUKACHEV, V.N., akademik, red.; VASIL'IEV, P.V., prof., red.; ZHUKOV, A.B., prof., red.; MOTOVILOV, G.P., prof., red.; PRAVDIN, L.F., prof., red.; FUKS, Ye.A., red.izd-vs; BRATISHKO, L.V., tekhn.red.

[Problems in increasing forest production; in 4 volumes] Problemy povysheniia produktivnosti lesov v chetyrekh tomakh. Moskva, Goslesbumizdat. Vol.2. [Forest drainage measures] Lesoosushitel'nye meropriiatiiia. 1959. 148 p. (MIRA 14:3)

1. Akademiya nauk SSSR. Institut lesa. 2. Institut lesa Akademii nauk SSSR (for P'yavchenko).
(Forest management) (Drainage)

30(1), 30(5)

AUTHOR:

P'yavchenko, M. I., Doctor of Biological Sciences

TITLE:

From the Experience Made by Finnish Forest Experts (Iz opyta
lesovodstviya Finlyandii)

PERIODICAL:

Vestnik Akademii nauk SSSR, 1959, Nr 4, pp 93-96 (USSR)

ABSTRACT:

The author of the present paper had the opportunity of visiting Finland twice in 1957 and 1958; altogether he spent 3 weeks there. The aim of his visit were the forests of Finland and the collection of experience in the Finnish methods of forestry and forest drainage. The work of forest drainage is mainly carried out by means of high-duty trenching machines and the method of exploding. The average capacity of a trenching machine of the "Lokomo"-type amounts to 2.4 km in 8 hours. Figure 1 shows the trenching machine of the type "Kayani". Depending on soil conditions the wild pine (*Pinus silvestris*), the European fir (*Picea excelsa*) and *Betula verrucosa* are cultivated by means of the sowing and planting method. In the State-owned forests all work is carried out by the staff of the forestry-offices and in the private forests by the Forest Association "Tapio" which is financed by long-term state credits. The whole country

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SOV/30-59-4-10/51

From the Experience Made by Finnish Forest Experts

SOV/30-59-4-10/51

is divided into 4 forest-districts with 82 State forestry-offices. 350 foresters with university education are employed here and about the same number of workers. The Forest Institute under the direction of Professor R. Sarvas carries out scientific research work in 7 departments and owns 14 experimental forest stations of a total area of 60,000 hectares. Selection work is carried out here on a large scale. The Department of Swamp Science and Drainage of the Forests is directed by Professor O. Lukkala and Doctor O. Khuykari. The Department of Forestry of Helsinki University trains young experts. Apart from this, there are 2 special schools for forest technicians with a training time of 2 years. Finally, the author emphasizes that everywhere in Finland he was very friendly welcomed and informed about experience and achievements of forestry. There are 2 figures.

Card 2/2

P'YAVCHENKO, N.I.

Typological description of swampy forests for drainage purposes.
Trudy Inst. lesa 49:9-16 '59. (MIRA 13:2)

1. Institut lesa AN SSSR.
(Forests and forestry) (Drainage)

30(1)

AUTHORS: P'yavchenko, N. I., Sibireva, Z. A. SOV/20-59-124-2-49/71

TITLE: On the Role of Atmospheric Dust in the Feeding of Swamps
(O roli atmosfernoy pyli v pitanii bclot)

PERIODICAL: Doklady Akademii nauk SSSR, 1959; Vol 124, Nr 2, pp 414-417 (USSR)

ABSTRACT: Although the importance of atmospheric dust to the feeding of oligotrophic bogs (high bogs) is generally recognized, the quantitative side of this factor is still insufficiently explained. A. V. Pichugin (Ref 4), on the basis of data published by Ya. Vityn' and N. Usov, arrived at the conclusion that the ratio between the amount of salt that is precipitated to the earth (53 mg/liter) and the annual crop corresponds to the absolutely dry vegetable mass, mostly to the index of ash content of the high-bog peats. M. N. Nikonov (Refs 2,3), using the computations made by S. V. Bruyevich, found that the precipitated amounts of allogeinic material may cause an ash content of 1.25 % in the peat. Considerable part of silicon, phosphorus, sulfur, magnesium, and aluminum is also precipitated from the atmosphere, while calcium and iron more or less are carried in by water. The authors dealt with the problem mentioned in the title concerning the high bogs as well as the low bogs in the years 1956-57 in the Severnaya lesnaya optytnaya stantsiya (Northern

Card 1/3

On the Role of Atmospheric Dust in the Feeding of Swamps SOV/20-59-124-2-49/71

Forest Research Station) of the institute mentioned in the association in the Kadnikovskoye Chief Forestry Office of the Kharovskiy Forest Administration (Vologda Oblast). The water taken from ombrographs etc. (summer) was vaporized and the dry residue was determined. In the latter the most important elements were determined after annealing. In winter snow samples were used for the above purpose. The results were recomputed to 1 ha by using the amount of precipitation (from the local water station). The amount of precipitated atmospheric dust was approximately the same in the high and low bogs. For this reason average values are given (Table 1). On an open clearing 164 kg/ha and in the wood 135 kg/ha dust were precipitated. As is known the crowns of the trees are able to collect 30 % and more of the precipitations. In the ashes of atmospheric dust there is about 1/3 silicon and about 1/4 potassium calcium 11 %, magnesium 4 %, and phosphorus about 1 %. Iron, aluminum and sulfur are estimated to be about 1/3 of the ashes. Table 2 shows that the annual precipitation of ash substances (except phosphorus) exceeds the consumption of the elements mentioned by the vegetation of the bogs. It is unknown whether they may be assimilated. Cases of "converted" bogs which have been recorded several times (interruption of the "normal" development of a high bog and replacement

Card 2/3

On the Role of Atmospheric Dust in the Feeding of Swamps SOV/20-59-124-2-49/71

of the Sphagnum mosses by more delicate herbaceous and ligneous vegetation) can be regarded as being due to the effect of atmospheric dust. In this case peat bogs of the low bog type are then formed. Under the influence of dust low bogs show decreasing acidity, an increase of the ash content and an increased degree of decomposition of the peat.- There are 3 tables and 5 Soviet references.

ASSOCIATION: Institut lesa Akademii nauk SSSR
(Institute of Forestry of the Academy of Sciences, USSR)

PRESENTED: August 16, 1958, by V. N. Sukachev, Academician

SUBMITTED: August 14, 1958

Card 3/3

P'YAVCHENKO, N.

REPORTS
reports to be presented at the
7th Intl Congress of Moor-
land Research, Frantiskovy Lázně
and Prague, Czechoslovakia,
14-19 Sep 60.

RELEN'KIY, (fnu) (possibly M. S. RELEN'KIY,
Ukrainian Scientific Research Institute of
Health Resorts and Balneology, Odessa) - Paper
to be announced (Session IV)

MICHIGA, M. M., Soil Institute imeni V. V.
Dokuchayev, Academy of Sciences USSR, Moscow -
"Characteristics of humus materials and their
importance for plants" (Session VIII; also
Chairman, Session VII)

KOLLOVSKAYA, L. S., Institute of Forestry,
Academy of Sciences USSR, Moscow - "The task
of biological factors in the decomposition of
the organic parts of peats" (Session I)

MASLAKA, B. M. and DRUDCOVA, T. V., both of the
Institute of Geochemistry and Analytical
Chemistry imeni V. I. Vernadskiy, Academy of
Sciences USSR, Moscow - "Organic components of
moors and their relation to metals" (Session I)

PEPELOVA, G. N., Director, State Scientific
Research Institute for Health Resort Studies and
Physiotherapy, Moscow - paper to be announced
(Session III)

P'YAVCHENKO, N. I., Institute of Forestry,
Academy of Sciences USSR, Moscow - "Types
of wood peat in the USSR" (Session VIII)

TURKOV, N., "Principles of classification of
moor deposits" (Session II)

ZANTATIN, S. I., Institute of Regional Pathology,
Academy of Sciences Kazakh SSR, Alma Ata -
"Balneological factors in the Kazakh SSR"
(Session IV)

PRAVDIN, L.F., prof., doktor biolog.nauk, otv.red.; SUKACHEV, V.N., akademik, red.; VASIL'YEV, P.V., prof., red.; ZHUKOV, A.B., prof., red.; MOTOVILOV, G.P., prof., red.; P'YAVCHENKO, N.I., prof., red.; FUKS, Ye.A., red.izd-va; PARAKHINA, N.L., tekhn.red.

[Problems of increasing the productivity of forests] Problemy povysheniia produktivnosti lesov; v chetyrekh tomakh. Moskva, Goslesbumizdat. Vol.3. [Introducing in forests fast-growing and economically-valuable tree species] Vvedenie v lesa bystro-rastushchikh i khoziaistvenno tsennnykh drevesnykh porod. 1960. (MIRA 13:11) 195 p.

1. Akademiya nauk SSSR. Institut lesa. 2. Institut lesa Akademii nauk SSSR (for Pravdin).
(Forests and forestry)

P'YAVCHENKO, N.I.

Biological cycle of nitrogen and ash constituents in swampy forests.
Pochvovedenie no.6:21-32 Je '60. (MIRA 13:11)

1. Institut lesa idrevesiny Akademii nauk SSSR, Krasnoyarsk.
(Minerals in soil) (Soils—Nitrogen content)
(Forest soils)

P'YAVCHENKO, N.I.

Classification of water-logged and swamp forests. Trudy Inst. biol.
UF AN SSSR no.27:133-138 '61. (MIRA 17:2)

S/026/62/000/005/004/005
D050/D113

AUTHOR: P'yavchenko, N.I., Professor (Krasnoyarsk)

TITLE: There never was a crater

PERIODICAL: Priroda, no. 8, 1962, 39-42

TEXT: In 1961, the Institut lesa Sibirskogo otdeleniya Akademii nauk SSSR (Forest Institute of the Siberian Department of the Academy of Sciences USSR) investigated the swamps between the Podkamennaya Tunguska and Chunya rivers, i.e. the location of the Tungus meteorite fall. L.A. Kulik and Ye.L. Krinov had regarded the thawed-out depressions in the swamp area as meteoritic craters. After aerial observation and detailed surface examinations, the expedition decided that the formation of these swamps cannot be connected with the Tungus meteorite fall. Judging by the thickness of the peat bed, the age of the swamps is not less than 5 or 6 thousand years, their origin being completely natural. The craters on the surface of the frozen swamp are natural formations appearing because of thermokarst and existing climatic conditions. The investigations are described in detail..There are 3 figures.

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P'YAVCHENKO, N.I., prof. (Krasnoyarsk)

There was no crater; swamps of the ~~Stary~~ Tunguska-Chunya interfluve.
Priroda 51 no.8:39-42 Ag '62. (MIRA 15:9)
(Podkamennaya Tunguska Valley—Peat bogs)

P'YAVCHENKO, N.I.

Formation of the ridged microrelief of the Hypnum-Carex bogs of
Western Siberia. Probl. bot. 6:318-324 '62. (MIR^A 16:5)
(Siberia, Western—Swamps)

P'YAVCHENKO, Nikolay Ivanovich; ZHUKOV, A.B., doktor sel'khoz. nauk,
prof., otv. red.; VOLYNSKAYA, V.S., red.izd-va; VOLKOVA,
V.V., tekhn. red.

[Study of forest swamps] Lesnoe bolotovedenie; osnovnye
voprosy. Moskva, Izd-vo Akad. nauk SSSR, 1963. 190 p.

(MIRA 16:5)

(Forest ecology) (Swamps)

P'YAVCHENKO, N.I.

Drainage of bogs as a measure for transforming nature and utilizing
forest resources in northern Siberia. Probl. Sev. no.7:55-64 '63.
(MIRA 17:2)

PYAVCHENKO, N. I.

"On the question of terminology in bog science."

Report submitted for the 2nd International Peat Congress, Leningrad,
15-22 Aug 63.

P'YAVCHENKO, N.I.

Methods for interpreting the spore-pollen spectra of Holocene.
Izv. SO AN SSSR no. 8. Ser. biol.-med. nauk no.2:25-33 '63.
(MIRA 16:11)

1. Institut lesa i drevesiny Sibirskogo otdeleniya AN SSSR.

ORLOVSKIY, I.V.; KRUPKIN, P.I.; POL'SKIY, M.N.; FOMIN, P.F.;
SHAKIROV, F.Kh.; P'YAVCHENKO, N.I., prof., doktor biol.
nauk, otv. red.

[Soil erosion in the area of the Minusinsk Lowland and its
control; advice to agricultural workers] Eroziia pochv v
raionakh Minusinskoi vpadiny i bor'ba s neiu; sovety rabot-
nikam sel'skogo khoziaistva. Krasnoiarsk, AN SSSR, In-t
lesa i drevesiny, 1963. 69 p. (MIRA 18:3)

PLATONOV, G.M.; P'YAVCHENKO, N.I., doktor biol. nauk, otv. red.

[Swamps in the forest-steppe area of central Siberia]
Bolota lesostepi Srednei Sibiri. Moskva, Nauka, 1964.
114 p. (MIRA 17:12)

YEFREMOV, S.P.; P'YAVCHENKO, N.I.

Genesis of rolling bogs in the Podkamennaya Tunguska basin.
Izv. SO AN SSSR no.12: Ser. biol.-med. nauk no.3:37-43 '64.
(MIRA 18:6)

1. Institut lesa i drevesiny Sibirskogo otdeleniya AN SSSR,
Krasnoyarsk.

IL'INSKAYA, S.A.; BRYSOVA, L.P.; P'YAVCHENKO, N.I., otv.red.

[Forests in the Zeya area of the Amur Valley] Lesa
Zeiskogo Priamur'ia. Moskva, Nauka, 1965. 208 p.
(MIRA 18:11)

P'YAVCHENKO, N.I., doktor biol. nauk, otv. red.

[Characteristics of swamp formation in some forest and piedmont regions of Siberia and the Far East] Osobennosti bolotoobrazovaniia v nekotorykh lesnykh i predgornnykh raionakh Sibiri i Dal'nego Vostoka. Moskva, Nauka, 1965. 181 p. (MIRA 18:6)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Institut lesa i drevesiny.

SMAGIN, Valentin Nikolayevich; P'YAVCHENKO, N.I., otv. red.

[Forest of the Ussuri basin] Lesa basseina r. Ussuri.
Moskva, Nauka, 1965. 269 p. (MIRA 18:7)

P'YAVCHENKO, O.N.

Interpolational parallel-type integrating machines with
multiple-order increments. Kibernetika no.2:61-70 Mr-Ap
'65. (MIRA 18:5)

L 54570-65 EWT(d)/EED-2/EWP(1) Pg-1/Pg-1/Pk-1 IJP(c) BB/QQ
ACCESSION NR: AP5012795 UR/0378/65/000/002/0061/0070
681.142.1.01

28
B

AUTHOR: P'yavchenko, O. N.

16C

TITLE: Interpolation digital integrator of the parallel type with multidigit increments

SOURCE: Kibernetika, no. 2, 1965, 61-70

TOPIC TAGS: interpolation digital integrator, parallel type integrator, multidigit increment computer, differential equation, finite difference method, iteration method, control theory, mathematical model

ABSTRACT: In the case of fast process controls, modeling of the real object demands fast computers with four to six digit accuracy. Examples of such

Card 1/6

L 54570-65

ACCESSION NR: AP5012795

cut down on the numbers of such autonomous operating blocks (one should, e. g., unify the operations of integration, constant coefficient multiplication, and addition). Orig. art.

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001343720020-9

has: 49 formulas, 6 figures, and 1 table.

ASSOCIATION: None

SUBMITTED: 08Sep64

NO REF SOV: 006

ENCL: 00

OTHER: 001

SUB CODE: DP, MA

Card

2/3 Mb.

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001343720020-9"

43820-2

FRT(c)

IJP(c)

ACC NR: AP6017925

SOURCE CODE: UR/0378/66/000/002/0013/0017

AUTHOR: Kalyayev, A. V.; P'yavchenko, O. N.

ORG: none

TITLE: Some problems in the solution of differential equation systems using extrapolation digital integrating machines in the initial segment

SOURCE: Kibernetika, no. 2, 1966, 13-17

TOPIC TAGS: information theory, digital integrator, digital differential analyzer, differential equation system

ABSTRACT: The article discusses the solution of the well-known Shannon equations

$$\begin{aligned} dy_k &= \sum_{p=0}^n \sum_{j=0}^n a_{p/k} y_p dy_j; \\ k &= 2, 3, \dots, n; \\ y_0 &= 1; \quad y_1 = x. \end{aligned} \quad (1)$$

on digital integrating machines. The relative merits of the use for this purpose of

Card 1/2

UDC: 518.5:681.142

L 32200-56

ACC NR: AP6017925

interpolation and extrapolation difference formulas are discussed. It is shown that a considerable reduction of machine complexity can be achieved if interpolation formulas are employed in the design of the operational units of the computer, while on the whole the numerical solution of the equations is carried out by the extrapolation method. For this purpose, the authors have broken down the numerical integration process into two stages: a computation in the operational units of the proper increments by means of interpolation-type formulas, and subsequent extrapolation of the increments obtained one step ahead in order to compensate for the delay which results during the integration process. It is shown that the accuracy of the extrapolation of the increments is decisive to the accuracy of the solution. The method of consecutive approximations is used in the solution of the extrapolation difference equations during each integration step in the digital integrating machine. The fundamental operations for the organization of the computations are effected in the control device of the machine, giving rise to a certain inevitable increase in the complexity of the machine. However, the amount of additional equipment required will be negligible. Orig. art. has: 20 formulas.

SUB CODE: 09/ SUBM DATE: 20Sep65/ ORIG REF: 005/ OTH REF: 001
12/

Card 2/2 mcp

P'YAVCHENKO, V. (Rostov-na-Donu)

Let's improve the organization of management of municipal electric
transportation system. Zhil.-kom. khoz. 9 no.9:1'-16 '59.
(MIRA 13:2)

(Street railways) (Trolley buses)

P'YAVCHENKO, V. (Rostov-na-Donu)

Economic accountability at electric transportation enterprises.
Zhil.-kom. khoz. 11 no.11:33-34 N '61. (MIRA 16:7)

(Rapid transit)

KHERSONSKIY, S.; ONDRIN, A.; P'YAVCHENKO, V.; KARPENKO, V.

Readers' suggestions. Fin. SSSR 21 no.3:58-60 Mr '60.

(MIRA 13:3)

1. Starshiy revisor Moskovskogo oblastnogo finansovogo otdela (for
Kheronskiy). 2. Zamestitel' upravlyayushchego Udmurtskoy kontoroy
Stroybanka (for Ondrin).
(Finance)

P'YAVCHENKO, Vladimir Ivanovich

[Analysis of the production operation of a workshop] Ana-
liz proizvodstvennoi deiatel'nosti tsekhha. Moskva, Fi-
nansy, 1965. 37 p. (MIRA 18:3)

PYAY, L.T. (Tartu [Pai, L.]

Role of the lung in regulating the protein composition of blood plasma. Pat. fiziol. i eskp. terap. 4 no. 6:45-49 N-D '60.
(MIRA 14:2)

1. Iz kafedry gospital'noy terapii meditsinskogo fakul'teta
Tartuskogo gosudarstvennogo universiteta.
(LUNGS) (BLOOD PROTEINS)

PYAY, L.T. [Pai, L.]; PRIIMYAGI, L.S. [Prumagi, L.]

Effect of the serums of patients suffering from rheumatism and
infectious nonspecific polyarthritis on some tissue cultures.
Vop.revm. 3 no.1:25-31 Ja-Mr '63. (MIRA 16:4)

1. Iz kafedry gospital'noy terapii Tartuskogo gosudarstvennogo
universiteta Tallinskogo nauchno-issledovatel'skogo instituta
epidemiologii, mikrobiologii i gigiyeny Ministerstva zdravookhra-
neniya Estonskoy SSR.

(RHEUMATIC FEVER) (ARTHRITIS, RHEUMATOID)
(TISSUE CULTURES) (SERUM)

PYAY, L.T. [Pyay, L.]; VAPRA, A.N. [Vapra, A.]; LOOKHEYN, Y.I. [Lochein, O.]

Use of some biochemical and instrumental methods in studying atherosclerosis; changes in the turbidity of the blood serum under a cholesterol load and the rate of spreading of pulse waves. Klin.med. no.1:67-72 '62. (MIRA 15:1)

1. Iz kafedry gospital'noy terapii (i.o. zav. kafedroy - kand.med. nauk L.T. Pyay) meditsinskogo fakul'teta Tartuskogo gosudarstvennogo universiteta.

(ARTERIOSCLEROSIS) (PULSE) (CHOLESTEROL)

PYAY, L.T.

Interrelation of the production of antibodies and γ -globulins under normal conditions and under the influence of cortisone in rabbits exposed to successive immunization. Zhur.mikrobiol., epid.i immun. 33 no.8:118-124 Ag '62. (MIRA 15:10)

1. Iz Tartuskogo gosudarstvennogo universiteta.
(ANTIGENS AND ANTIBODIES) (GAMMA GLOBULIN) (CORTISONE)
(VACCINATION)

PYAV, L. T.

"Change of the Proportion of the Protein Fractions of the Plasma of the Blood in Pneumonias." First Leningrad Med Inst imeni Academician I. P. Pavlov, Leningrad, 1955
(Dissertation for the Degree of Candidate of Medical Sciences)

SO: Knizhnaya Letopis', No. 32, 6 Aug 55

BOYKOV, G.A.; UVAROV, B.S.; PYAYT, L.A.; LYUBICHEVA, Z.L.

Characteristics of general anesthesia in bronchgraphy in young children. Khirurgia 37 no.4:27-32 '61. (MIRA 14:4)

1. Iz kliniki khirurgii usovershenstvovaniya vrachey i kafedry anestesiologii (nach. - prof. P.A. Kupriyanov) Voyenno-meditsinskoy ordona Lenina akademii imeni S.M. Kirova.
(ANESTHESIA) (BRONCHI-RADIOGRAPHY)

Pyayvinen, E. A.

79-1-36/63

AUTHORS: Gorin, Yu. A., Ivanov, V. S., Bogdanova, Ye. S., Pyayvinen, E. A.

TITLE: Dienic Hydrocarbons From Unsaturated Alcohols (Diyenovyye uglevodorody iz nepredel'nykh спирт) I. The Catalytic Dehydration of Crotyl Alcohol to Divinyl (I. Kataliticheskaya degidratatsiya krotilovogo спирта v divinil)

PERIODICAL: Zhurnal Oshchey Khimii, 1958, Vol. 28, Nr 1, pp. 169-176 (USSR)

ABSTRACT: The subject of the present paper was the dehydration of crotyl alcohol according to S. V. Lebedev. The authors used various components of a catalyst which permitted to model the process in its last stage, the formation of divinyl from crotyl alcohol by dehydration. Moreover, it was their task to perform the reactions under different conditions and with the best contact action of catalysts which might supposedly lead to high yields. First of all it was of practical interest to calculate the dehydration of crotyl alcohol thermodynamically, as nothing was hitherto known on it with regard to free energy, entropy, modification of the heat capacity by temperature. For this reason the calculations were only made approximately, based on

Card 1/2

Dienic Hydrocarbons From Unsaturated Alcohols. I. The Catalytic Dehydration
of Crotyl Alcohol to Divinyl 79-1-36/63

the additive thermodynamic functions for organic molecules. The authors calculated the equilibrium constants of the dehydration reaction of crotyl alcohol in divinyl and according to them also the yield of reaction products in a temperature range of 300 - 890 K. From the approximate thermodynamic calculation follows that there exists no thermodynamic limitations for the given reaction. At a higher temperature the yield of divinyl increases. The best dehydration results were obtained with Lebedev's catalyst - B₂. In the liquid products of the catalysis over this catalyst the authors found a methyl-vinyl carbinol which is produced by the isomerization of crotyl alcohol. The investigation results correspond to the conceptions existing on the formation scheme of divinyl from ethyl alcohol according to Lebedev's method, according to which this alcohol is an intermediate product of this process. There are 3 tables, and 22 references, 6 of which are Slavic.

ASSOCIATION: Leningrad State University (Leningradskiy gosudarstvennyy universitet)
SUBMITTED: December 30, 1956
AVAILABLE: Library of Congress
Card 2/2 1. Chemistry 2. Hydrocarbons 3. Alcohols 4. Dehydration

PYAZANTSEV, N

I

EPP
.R92933

O TREKH OSOBENOSTYAKH PROIZVODSTVA. MOSKVA, IZD-VO ZNANIYE, 1952.

31 P. (VSESOYUZNOYE OBSHCHESTVO PO RASPROSTRANENIYU POLITICHESKIKH I NAUCHNYKH
ZNANIY. 1952, SERIYA 1, NO. 60)

RUSSIA

PYATOVSKAYA, N.P.

36-68-8/18

AUTHOR: Krasil'shchikov, L.B., and Pyatovskaya, N.P.

TITLE: Spectral Indices of Reflection of Given Surfaces on a
Cloudy Day Under Conditions of Natural Illumination
(Spektral'nyye indikatrysy otrazheniya nekotorykh
poverkhnostey pri yestestvennom osveshchenii v
oblachnyy den')

PERIODICAL: Trudy Glavnay geofizicheskoy observatorii
1957, Nr 68, pp. 132-139 (USSR)

ABSTRACT: The article examines a photographic method of determining
the spectral indices of diffused reflection from a number
of selected surfaces (grass, sand, snow, etc) with diffe-
rent scales of reflectability. The author establishes 4
types of reflecting surfaces and evaluates a monochrometer
built for this purpose. The entire calculation is based
on the spectral distribution of brightness of an ideal
diffusion surface. The article mentions Ye.L. Krinov and
N.S. Orlova. There are 10 figures and 12 references, of
which 7 are USSR.

AVAILABLE: Library of Congress

Card 1/1

ПЯТОВСКАЯ, Н.Н.

36-68-9/18

AUTHOR: Shifrin, K.S., and Pyatovskaya, N.P.

TITLE: Indices of Brightness of Natural Surfaces (Ob indikatrakh
yarkosti yestestvennykh poverkhnostey)

PERIODICAL: Trudy Glavnay geofizicheskoy observatorii
1957, Nr 68, pp. 140-151 (USSR)

ABSTRACT: The article describes a new method of measuring the degree of brightness of a snow-covered surface from the air, by using three pyranometers properly mounted on a P0-2 airplane. The pyranometer also measures the albedoes of such surfaces. The theory of this method, based on uniformity of surface conditions, is explained mathematically. The article mentions Ye. L. Krinov. There are 7 figures, 3 tables, and 6 references, of which 5 are USSR.

AVAILABLE: Library of Congress

Card 1/1

DANILOV, S.N.; PLISKO, Ye.A.; PYAVINEN, E.A.

Ethers and the reactivity of cellulose and chitin. Izv.
AN SSSR. Otd.khim.nauk no.8:1500-1506 Ag '61. (MIRA 14:8)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
(Cellulose ethers)
(Chitin)

ZUBRILOV, L.Ye., kand. tekhn.nauk; FYAZOK, R.A., kand tekhn. nauk: SHUL'MIN, B.M., kand tekhn. nauk

Determining the economically advantageous limit of drawing from caved blocks at the "Magnitetovaya" Mine of the Vysokogorskiy Mining Administration. Izv.vys.ucheb.zav.;gor.zhur. 7 no.6:19-22 '64.

(MIRA 17:12)

1. Institut gornogo dela Gosmetallurgkomiteta SSSR. Rekomendovana kafedroy razrabotki rudnykh mestorozhdeniy.

IL'IN, A.M.; PYAZOK, R.A.

Comparing induced sublevel caving and combination systems in the
Vysokaya Gora Mine. Trudy Gor.-geol.inst.UFAN SSSR no.54:79-84
'60. (MIRA 14:6)

(Vysokaya Gora (Sverdlovsk Province)—Mining engineering)

PHASE I BOOK EXPLOITATION

SOV/5298

Akademiya nauk SSSR. Ural'skiy filial. Gorno-geologicheskiy institut.

Podzemnaya razrabotka rudykh mestorozhdeniy (Underground Exploitation of Ore Deposits) Sverdlovsk [1960] 165 p. (Series: Itogi: vyp. 54), 1,000 copies printed.

Editorial Board: K. V. Kochnev, Professor, Doctor of Technical Sciences; A. A. Shmelev, Candidate of Technical Sciences, Ed. of Publishing House: M. S. Ebergardt; Tech. Ed.: N. P. Seredina.

PURPOSE: This publication is intended for engineering and technical personnel in the mining industry.

COVERAGE: This is a collection of 22 articles by different authors on problems of underground exploitation of large massive ore deposits in the Urals. The articles are based on studies carried out in the Laboratory for Exploitation of Ore Deposits of the Gorno-geological Institute UFAAN SSSR (Institute of Mining Geology, Ural Branch AS USSR), between 1958-1959. No personalities are mentioned. Most of the articles are accompanied by references.

TECHNOLOGY OF UNDERGROUND EXPLOITATION

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SOV/5298
6/43

PYBER,, Laszlo, okleveles mernok

Simple instruments for processing water level data obtained by
fluviographs. Vizugyi kozl no.4:585-591 '62.

1. Vizgazdalkodasi Tudomanyos Kutato Intezet tudomanyos munkatarsa.

PYC, W.

PYC, W. A few remarks on building with clay blocks in the light of an experimental construction at Skawina. P.453 Vol. 28 no. 11 Nov.1956 Warsaw Poland

SOURCE: East European Accessions List (EEAL) Vol. 6 No. 4 April 1957

PYC, W.

Struggle against fungi in the German Democratic Republic. p. 30.

BUDOWNICTWO WIEJSKIE. (Ministerstwo Rolnictwa i Ministerstwo Państwowych Gospodarstw Rolnych) Warszawa, Poland. Vol. 11, no. 7, July 1959.

Monthly List of East European Accession (EEAI) LC, Vol. 9, no. 1, Jan. 1960.
Uncl.

HYC, W.

The use of clay as a building material. I. p.18

(BUDOWNICTWO WIEJSKIE. Vol. 9, No. 5, May 1957. Warszawa, Poland)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 10, October 1957. Uncl.

PYC, W.

The use of clay as a building material. II. p.20.

(BUDOWNICTWO WIEJSKIE. Vol. 9, No. 6, June 1957. Warszawa, Poland)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 10, October 1957. Uncl.

PYC, W.

The use of clay as a building material. III p.23.

(BUDOWNICTWO WIEJSKIE. Vol. 9, No. 7, July 1957. Warszawa, Poland)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 10, October 1957. Uncl.

PYC, W.

Examples of faulty workmanship in constructions of clay.

p. 21 (Budownictwo Wiejskie) Vol. 9, No. 9, Sept. 1957, Warszawa, Poland

SO: MONTHLY INDEX OF EAST-EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, JAN. 1958

Pyc, W.

Country : POLAND H-13
Category : Chemical Technology. Ceramics. Binding Materials.
Concrete
Abs. Jour : Ref Zhur-Khimiya, No 14, 1959, No 50480
Author : Pyc, W.
Institute :
Title : Saving on Cement in the Production of Concrete
by Means of Addition of the Sulfite-Alcohol M
Orig Pub. : Budown wiejskie, 1958, 10, No 11, 21-23
Abstract : Introduction of the sulfite-alcohol malt (SAM)
into water used in the wetting of ingredients
increases plasticity and workability of con-
crete mixtures, which permits the reduction of
cement quantity by 8-10% in the making of
concrete. Concrete containing SAM is charac-
terized by somewhat better adhesion of aggre-
gate with reinforcing steel (approx. 6-8%)
*Malt
Card: 1/3

Category : Chemical Technology.

Abs. Jour : Ref Zhur-Khimiya, No 14, 1959, No 50480

Author :

Institute :

Title :

Orig Pub. :

Abstract : and by lower water requirements. SAM also improves the resistance to frost and the permeability to water, as well as improves to some degree its strength, measured on the 28th day after setting. The dosage of SAM (in l per 1 m³ of concrete) may be calculated from the formula: P=C•0.15/S • 100, where C is the amount of cement required in kg/m³, and S is the quantity of the additive dry mass in kg per 10. Presented is a schematic

Card: 2/3

H-62

Country : H -13
Category : Chemical Technology.
Abs. Jour : Ref Zhur-Khimika, No 14, 1959, No 50180
Author :
Institute :
Title :

Orig Pub. :

Abstract : diagram depicting the handling of SAM to
Con'd a mill. -- B. Levman

Card: 3/3

Country : ROKA/AM

H -13

PYCH, Marian, mgr inż.

Technology of beam ceiling assemblage with observation of
industrial safety conditions. Przegl budowl i bud mieszk
35 no.1:68-70 Ja '63.

PYCHA, Bohumil, inz.; RITZ, Zdenek, inz.; SIVALA, Zdenek, inz.

Comparison of the 230 t Maerz-Poelens open-hearth furnace with
the 200 t open-hearth furnace of classical design. Pt.2. Hut
listy 18 no.8:546-553 Ag '63.

1. Nova hut Klementa Gottwalda, Vyzkumny a zkusebni ustav,
Ostrava - Kuncice.

PYCHA, Bohumil, inz.; RITZ, Zdenek, inz.; SIVALA, Zdenek, inz.

Comparing the 230t Maerz-Boelens open-hearth furnace with the 200t open-hearth furnace of classical design. Pt. 1. Hut listy 18 no.5:311-319 My '63.

1. Vyzkumny a zkusebni ustav, Nova hut Klementa Gottwalda, Ostrava - Kuncice.

PYCHA, J.

Collection of straw after harvesting with a combine.

p. 33.

RCLINICKE HLASY. (Ministerstvo zemedelstvi. Hlavni
aprava jednotnych druzstev) Praha.
Vol. 10, no. 6, June 1956.

SOURCE: EEAL LC Vol. 5, No. 10, Oct. 1956.

NOVOTNY, Bohuslav, inz. dr., CSc.; PYCHA, Ladislav, inz.

Research on power fuses in Czechoslovakia. Elektrotechnik 18
no.10:278-283 O '63.

1. Statni vyzkumnny ustav silnoproude elektrotechniky, Bechovice.

Pyshkov, N.G.

AID P - 1779

Subject : USSR/Chemistry

Card 1/1 Pub. 78 - 17/26

Authors : Pyshkov, N. G., Dement'yev, V. A. and Belyanchikov, G.P.

Title : Engine properties of distilled Diesel
lubricating oils

Periodical : Neft. khoz., v.33, no.3, 68-74, Mr 1955

Abstract : The authors discuss different lubricating oils used in
the USSR for various Diesel motors. They analyze and
compare the refined lubricating oil MS-20 with one
prepared with additive AzNII-4. Tables

Institution: Gavryukhin, V. M., Reznikov, V. D., Pyshkov, S. I.
Engineers, who helped in this work

Submitted : No date

PYCHKOV, S.I.

PHASE I BOOK EXPLOITATION 917

Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti
i gaza i polucheniyu iskusstvennogo zhidkogo topliva

Issledovaniye i primeneniye nefteproduktov (Study and Use of
Petroleum Products) Moscow, Gostoptekhizdat, 1957. 213 p.
(Series: Its: Trudy vyp. 6) 1,000 copies printed.

Eds.: Puchkov, N.G., Zaslavskiy, Yu. S.; Executive Ed.: Kleymenova,
K.F., Engineer; Tech. Ed.: Mukhina, E.L.

PURPOSE: This book is intended for engineering and scientific
personnel concerned with the production, study and use of petroleum
products.

COVERAGE: This collection of articles gives the results of the
scientific research work of the Vsesoyuznyy nauchno-issledovatel'-
skiy institut po pererabotke nefti i gaza i polucheniyu
iskusstvennogo Zhidkogo topliva (All-Union Scientific Research
Institute for the Processing of Petroleum and Gas for the
Production of Synthetic Liquid Fuel) on the operational properties

Card 1/17

Study and Use of Petroleum Products

917

of fuels and lubricating oils and describes methods for investigating, by the use of radioactive isotopes, the chemical composition and physicochemical properties of petroleum products and the wear-resistant properties of oils.

TABLE OF CONTENTS:

I. TESTING FUELS AND LUBRICATING OILS

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Diesel oil from eastern Devonian petroleum deposits with high sulfur content (up to 1 percent or more) was evaluated on the basis of the following criteria: 1) motor properties, 2) power and economy factors (in motor D-35); 3) wear of motor parts (the main criterion), and 4) functional stability. Laboratory investigations and extended tests of this oil, with additives "aznii-4" and "tsiatim-339", showed that it guarantees normal length of service for tractor and automobile diesels (D-35 and YaAZ-204 respectively), and is equal in quality to

Card 2/17

Study and Use of Petroleum Products

917

oil from Baku deposits. There are 8 tables and 1 Soviet reference.

Puchkov, N.G., and Belyanchikov, G.P. Fuel for High-speed Diesels

13

The present article gives comparative test data on standard fuel (according to GOST 4749-49 DL), fuel from the heavier fractions of petroleum, and compound fuel (a mixture of gas oil fuel and fuel from heavier fractions in a ratio of 30:70), on the basis of their performance in a two-cycle YaAZ-204 engine. It is concluded that fuel from the heavier fraction of petroleum may be utilized with a slight increase in viscosity (12 cst or $\eta_{20} \approx 2$) and the absence of heavy tarry residues (95 percent vaporizes at 400°). Fuels from catalytic cracking with a cetane number of 40, in the pure state and mixed with fuels of direct distillation may be widely used in modern tractor engines. There are 4 tables, 6 figures and 6 Soviet references.

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Puchkov, N.G. and Rubinshteyn, S.F. Investigation of the
Starting Qualities of Oils in Motor ZIL-120

24

This article gives the comparative results of the role of the viscosity of oils at low temperatures in starting motors ZIL-120 and GAZ-51. The installation of a more powerful starter may increase the limit viscosity which fixes the flowability and starting temperature limits of the oil within the intervals 100 to 300 poises and 20-25 to 100 poises, respectively. Experimental data indicate that for these two large motors the minimum viscosity values for oil are 250 and 100 poises for flowability and starting respectively. There are 8 figures, 2 tables and 4 Soviet references.

Reznikov, V.D. On Methods and Extent of Motor Tests of Lubricating Oils

33

The author states that present methods of testing lubricating oils are neither satisfactorily accurate nor comprehensive in providing data which will aid in choosing the proper oil for a given motor. Proposals for improving these conditions are given. There are 7 tables and 6 references, of which 5 are Soviet and 1 English.

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Serov, A.V. The Basis for Methods of Short-term Tests for
Evaluating the Wear-resistant Properties of Diesel Oils 46

In this article the author cites methods of evaluating wear-resistant properties of diesel oils on the basis of several considerations which are discussed at length. It is stated that determination of motor wear according to the amount of iron dissolved in the lubricating oil is quite possible. It is concluded that the basic factors determining the rate of motor wear are the rotational speed of the crankshaft, motor load, and temperature, although the influence of the latter is apparently less noticeable in diesels than in carburetor motors. There are 7 figures, 4 tables and 7 Soviet references.

III. INVESTIGATION OF PETROLEUM PRODUCTS

Zaslavskiy, Yu. S.; Shor, G.I.; Kirillov, I.G.; Lebedeva, F.B.;
Yevstigneyev, Ye. V.; and Zlobin, O.A. The Application of

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Radioactive Indicators (Tagged Atoms) in the Investigation of
Wear-resistant Properties of Lubricating Oils 58

The purpose of this investigation was to establish a rapid method of evaluating wear-resistant properties of lubricating oils by the use of radioactive isotopes. A motor part was exposed to an isotope, e.g., Co. ⁶⁰, and wear was measured by measuring the radiation intensity of the lubricating oil with a counter tube. A structural scheme is given for an automatic apparatus which will continuously record the radioactivity of circulating oil (thereby making "visible" the wear on components as it fluctuates with changing test conditions). There are 17 figures, 6 tables and 32 references, of which 11 are Soviet and 21 English.

Zaslavskiy, Yu. S.; Kreyn, S.E.; Shneyerova, R.N.; and Shor,
G.I.. Radiochemical Investigation of the Action of Oil 85
Additives

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This investigation concerned the capacity of additives to demonstrate an inhibiting action on oil during the operative process (i.e., to ensure an antioxidantizing effect), or the capacity to prevent the catalytic influence of surface metal on the oxidation of oil. It was found that the protective coating, once having formed, later begins to decompose and erode, and is eventually washed off the metal surface completely; retardation of corrosion, therefore, is most effective during the formation of the protective coating. Engineers A.I. Kuznetsova, I.A. Morozova; Technicians M.B. Koziyenko, N.M. Avdeyeva; and laboratory assistants P.I. Shishova and N.V. Dmitriyeva participated in the work. There are 16 figures, 1 table, and 14 references, of which 12 are Soviet and 2 English.

Zaslavskiy, Yu. S.; Shneyerova, R.N.; Shor, G.I.; and Kuznetsova, A.I. Radiochemical Investigation of the Stability of Solutions of Additives in Oils

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This investigation was made because of the need for additives that will not precipitate from oil under the influence of various factors. It was found that, by using tagged atoms in a method based on centrifuging, stability could be determined by measuring the radioactivity of the oil layers after centrifuging. Professor S.E. Kreyn acted as consultant in the work. There are 3 figures, 4 tables and 3 Soviet references.

Tilicheyev, M.D. Cryoscopic Methods of Analyzing the Hydrocarbon Content of Petroleum Products. I. Cryoscopic Methods of Analysis Without a Solvent

117

The author bases the method mentioned in the title on a principle of chemical thermodynamics which states that the temperature of crystallization of any solvent is lowered 1° by the same amount of any substance on condition that it is soluble in the liquid phase and insoluble in the solid phase of the solvent and forms an ideal solution with it.

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On the basis of this law, and by accurate determination of crystallization temperature, the author determines, and gives methods and equations for determining, a) the purity of individual admixtures (hydrocarbons), b) the quantity of individual admixtures, and c) the concentration of sulfuric acid. S.A. Yukanova participated in b), and V.P. Peshkov, Doctor of Physical and Mathematical Sciences, acted as consultant.

Tilicheyev, M.D.; Okishevich, N.A.; Borovaya, M.S.; and Goya, Ye. I. Cryoscopic Methods of Analyzing the Hydrocarbon Content of Petroleum Products II. Cryoscopic Methods of Analysis Using Solvents 130

This article reviews the above-mentioned method in which the authors determine the amount of admixture by taking a solvent with a sufficiently high value and adding 1 percent mol of a substance. By observing the change in crystallization temperature of cyclohexane, it was possible to determine

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the amount of admixture with a degree of error of plus or minus 1 percent. This method and the chromatographic method were used to determine the amount of aromatic hydrocarbons in gasoline (with a degree of error of plus or minus .6 percent), the amount of nonsulfonated admixtures in different fractions of aromatic hydrocarbons, and the quantitative determination of aromatic hydrocarbons in petroleum oils in a solution of cyclohexane. V.S. Buk participated in the quantitative analysis of aromatic hydrocarbons in petroleum oil. There are 3 figures, 21 tables and 12 references, of which 9 are Soviet and 3 English.

Tilicheyev, M.D.; Goysa, Ye.I.; Tsyganova, Ye V. A Gravimetric Method for the Quantitative Determination of Aromatic Hydrocarbons in Light-colored Petroleum Products 148

This paper gives the results of tests of aviation gasolines, "Galosha" gasoline, and white spirit (a turpentine substitute) for the presence of aromatic hydro-carbons. Two variants of

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the method were used, which include (Variant I) treatment with sulfuric acid and rinsing with water and (Variant II) titration with a 0.1 n solution of KOH. The accuracy of this method was determined with synthetic mixtures of alkanes and cyclanes(naphthenes) of gasoline B-70 and 2,2,4 - trimethyl pentane.(iso-octane). Variant I, with a degree of error of plus or minus .5 percent, is recommended, whereas Variant II had a degree of error of plus or minus .8 percent. There are 7 tables and 1 Soviet reference.

Tilicheyev, M.D. Basing the Boiling Point of Petroleum Products
on Atmospheric Pressure

156

Boiling points are "brought to normal" according to the pressure of saturated vapors of individual hydrocarbons, on the basis of n-alkanes. The author states that this method and others lead to serious errors, and gives methods for

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computing these boiling points when transferring from one pressure to another by using the coefficients of Antoine's equation ($t_p = \frac{B}{A - \lg P} - C$) and a graphic method based on the

molecular weights of the compounds. There are 3 figures, 4 tables and 11 references, of which 6 are Soviet and 5 English.

Ptashinskiy, I.A. and Guseva, R.I. Electrometric Method of Evaluating the Corrosive Aggressiveness of Lubricating Oils

174

This article gives a resume of research on the electrochemical nature of the corrossions of metals in different solutions. The electrochemical nature of the corrosion process was proven for solutions of acids and for oil SU, and a satisfactory method for measuring the electric potential of a metallic electrode in lubricating oil was worked out. There are 3 tables and 7 Soviet references.

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